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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/605,791 | 10/27/2003 | Li-Yi Chen | CMOP0025USA | 2790 |
| 27765 7590 04/01/2008 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116 | | | EXAMINER BECK, ALEXANDER S | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2629 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/605,791 | Applicant(s) CHEN ET AL. | |
| | Examiner Alexander S. Beck | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 9-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Mar. 5, 2008, has been entered. Claims 1, 3-7 and 9-22 are currently pending and an Office action on the merits follows.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 3-7 and 9-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0063671 by Knapp ("Knapp").

As to claim 1, Knapp discloses a display panel in Figure 3 comprising: a first scanning band (1 through K), a second scanning band (K+x through M) and a third scanning band (K through K+x) positioned between the first scanning band and the second scanning band, and each scanning band including a plurality of parallel scanning lines (1 through M); a plurality of parallel data lines (1 through N) extending across the first scanning band, the second scanning band and the third scanning band, the data lines and the scanning lines being perpendicular to each other, and each of the data lines including a disconnecting point positioned in the third scanning band; a plurality of pixel units (10), each pixel unit being positioned around an intersection point of one scanning

line and one data line and being electrically controlled by both the scanning line and the data line; and a first data driver (35A) and a second data driver (35B) electrically connected to the data lines for inputting image data into each pixel unit (Knapp, ¶¶ [0027-0028]). Moreover, Knapp discloses that when the scanning lines of the third scanning band scan in sequence along a third scanning direction according to a second scanning signal, the first data driver and the second data driver input the same image into each pixel unit positioned in the third scanning band simultaneously (Knapp, ¶ [0029]).

Knapp does not disclose expressly for the embodiment in Figure 3 that when scanning the first scanning band and the second scanning band simultaneously, the first data driver inputs the corresponding image data into the first scanning band and the second data driver inputs the corresponding image data into the second scanning band, wherein the scanning lines of the first scanning band and the second scanning band scan along a first scanning direction and a second scanning direction according to a first scanning signal.

However, Knapp discloses in the background of the prior art a first data driver and a second data driver electrically connected to the data lines for inputting image data into each pixel unit, such that when scanning the first scanning band and the second scanning band simultaneously, the first data driver inputs the corresponding image data into the first scanning band and the second data driver inputs the corresponding image data into the second scanning band (Knapp, ¶ [0007]). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Knapp such that when scanning the first scanning band and the second scanning band simultaneously, the first data driver inputs the image data into the first scanning band and the second data driver inputs the image data into the second scanning band, as taught/suggested in the background of Knapp. As such, the scanning lines of the first scanning band and the second scanning band scan along a first scanning direction and a second scanning direction according to a first scanning signal (e.g., the first scanning

signal being the signal scanning when the first and second bands are addressed simultaneously). The suggestion/motivation for doing so would have been to reduce the power dissipated in the column driver circuits (Knapp, ¶ [0007]).

As to claim 3, Knapp discloses the display panel in Figure 3 further comprising a signal supplier (40) for supplying each pixel unit with the image data (Knapp, ¶¶ [0027-0028]).

As to claim 4, Knapp does not disclose expressly the display panel further comprising a memory for storing the image data supplied by the signal supplier, with the stored image data being further outputted from the memory into the first data driver and the second data driver. However, the examiner takes official notice that a signal supplier, memory and first and second data drivers operating together as presently claimed is old and well known in the art (Applicant's admission of prior art, specification; see also Fig. 2). Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Knapp such that a signal supplier, memory and first and second data drivers operated together as presently claimed. The suggestion/motivation for doing so would have been to selectively display data on an active matrix by controlling the transmission of data from a controlling unit to respective data drivers by latching the data in a memory means.

As to claim 5, Knapp discloses the display panel in Figure 3 further comprising a gate driver (30) for applying scanning signals to the scanning lines of each scanning band (Knapp, ¶¶ [0027-0028]).

As to claim 6, Knapp as modified in claim 1 above teaches/suggests the display panel wherein when the first data driver and the second data driver respectively input the

image data into each pixel unit positioned in the first scanning band and the second scanning band, the gate driver applies the first scanning signal to the scanning lines of the first scanning band in sequence according to the first scanning direction so as to enable the pixel unit electrically controlled by each scanning line of the first scanning band to accept a corresponding image data, and the first scanning signal is simultaneously applied to the scanning lines of the second scanning band in sequence according to a second scanning direction so as to enable the pixel unit electrically controlled by each scanning line of the second scanning band to accept a corresponding image data (Knapp, ¶¶ [0007, 0027-0029]).

As to claim 7, Knapp discloses the display panel in Figure 3 wherein the gate driver applies a second scanning signal to the scanning lines of the third scanning band in sequence according to a third scanning direction (Knapp, ¶¶ [0027-0029]).

As to claims 9-14, Knapp does not disclose expressly wherein the first and second scanning directions are identical, the third and first scanning directions are identical, the third and first scanning directions are opposite, or the first scanning direction and the second direction are opposite. However, since the applicant has failed to disclose that the various scanning directional relationships between the first, second and third directions are used for a particular purpose, or solves a stated problem, it is an obvious matter of design choice to have such a variety of scanning directional relationships in the teaching of Knapp. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to further modify the teachings of Knapp such that the various scanning directional relationships were included. The suggestion/motivation for doing so would have been that any scanning directional relationship, including the ones claimed, would perform equally well at actively addressing individual pixels across the pixel matrix structure.

As to claims 15-22, which recite the method of driving the liquid crystal display panel, all of the claim limitations have been discussed and met by Knapp as detailed in the above paragraphs with respect to claims 1-14.

Response to Arguments

4. Applicant's arguments filed Mar. 5, 2008, have been fully considered but they are not persuasive. Applicant argues that in contrast to Knapp, the present application teaches the third scanning band being addressed consecutively while the first scanning band and the second scanning band are addressed simultaneously (Amendment, p. 7). It appears applicant is making reference to paragraph [0024] of the specification which discloses, in part:

...the driving method first simultaneously scans the first scanning band 82 and the second scanning band 84 and then scans the third scanning band 86.

However, examiner respectfully submits that the claims are not commensurate in scope with applicant's argument. Claim 1, as amended, requires that "the scanning lines of the third scanning band scan in sequence along a third scanning direction." Similarly, claim 15 requires "scanning the third scanning band in sequence." These limitations broadly interpreted read on the lines within the third scanning band being scanned sequentially, and not necessarily that the entire third scanning band be scanned sequential to the simultaneous scanning of the first and second bands, as argued. Moreover, examiner respectfully submits that the lines within the third scanning band of Knapp are scanned sequentially (Knapp, ¶¶ [0027-0029]), thus reading on the broad limitations as claimed.

Nevertheless, for the purposes of expediting prosecution, examiner respectfully submits that Knapp reads on applicant's arguments. For example, Knapp discloses wherein the first (upper), third (middle), and second (lower) scanning bands are all

scanned sequential to one another (Knapp, ¶¶ [0027-0029]). In other words, the scanning band sequence is: $1^{\text{st}} \rightarrow 3^{\text{rd}} \rightarrow 2^{\text{nd}} \rightarrow 1^{\text{st}} \rightarrow 3^{\text{rd}} \rightarrow 2^{\text{nd}}$, etc. In the proposed modification in view of Knapp's background, as articulated in the rejection of claim 1 above, the teachings taken collectively suggest wherein the first (upper) and second (lower) scanning bands are scanned simultaneously (Knapp, ¶ [0007]). Thus, examiner respectfully submits that the modified teachings fairly suggest the following band sequence: $1^{\text{st}}/2^{\text{nd}} \rightarrow 3^{\text{rd}} \rightarrow 1^{\text{st}}/2^{\text{nd}} \rightarrow 3^{\text{rd}}$, etc.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander S. Beck whose telephone number is (571)272-7765. The examiner can normally be reached on M-F, 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/

Supervisory Patent Examiner, Art Unit 2629

asb

Mar. 24, 2008